



Neuroscience of Addiction

Jennifer Sweeton PsyD, MS, MA
Mind Works Consulting and Psychological Services, PLLC

Nucleus Accumbens

“Addiction Center”

Involved in reward, laughter, pleasure, addiction

Important component of the reward pathways of the brain



Mesolimbic Pathway (Dopaminergic Pathway):
Involved in reward, pleasure, addiction. Three areas:

- 1** **Ventral Tegmental Area** releases dopamine for the pathway
- 2** **Nucleus Accumbens** (aka Ventral Striatum) involved in reward, laughter, pleasure, addiction
- 3** **PFC** appraises/interprets pleasurable stimuli

Other reward circuits are also involved in reward and pleasure, but also habit formation and motivation.

Reward Pathway

H hypothalamus
HP hippocampus
LC locus coeruleus
NAc nucleus accumbens
PFC prefrontal cortex
VTA ventral tegmental area
A Amygdala

- Dopaminergic
- NEergic/5HTergic
- GABAergic
- Peptidergic
- Glutamatergic

